Energy Policy Update

NOVEMBER 25, 2013

The Energy Policy Update electronic newsletter is published by the Arizona Governor's Office of Energy Policy and is provided free of charge to the public. It contains verbatim excerpts from international, domestic energy, and environment-related publications that are reviewed by community outreach personnel. For inquiries, call 602-771-1143 or toll free to 800-352-5499. To register to receive this newsletter electronically or to unsubscribe, email Gloria Castro.

UPCOMING WEBINARS

December 5: Building an Effective Sustainable Enterprise GRC Program for Energy and Utility Organizations
Webinar Partners: EnergySec and MetricStream
Click here to register.

Arizona Master Energy Plan Stakeholder Meetings Schedule Announced
The following statewide Arizona Master Energy Plan Stakeholder Meetings have been scheduled. An overview of the Draft Master Energy Plan process will be presented by Leisa Brug, Director, Governor's Office of Energy Policy. Topics to be included in the plan (to be released in 2014) will be discussed followed by a question/answer session and public comment period.

Visit www.azenergy.gov/MEP.aspx for more information. Public comment forms are available on the website or by email request at odoherty@az.gov. Forms will need to be completed prior to public comment periods and/or will be accepted by email until 5pm on December 4, 2013.

Arizona Master Energy Plan Stakeholder Meeting - Phoenix
Tuesday, November 26, 2013
2:00-4:00pm

Meeting Location
State Capitol Executive Tower
1700 W. Washington Street
2nf floor, Governor's Conference Room #200
Phoenix, Arizona 85007

Arizona Master Energy Plan Stakeholder Meeting - Flagstaff
Tuesday, December 3, 2013
12:00-2:00pm

Meeting Location:
Arizona Department of Transportation
Flagstaff Modular Training Room
1901 South Milton Road
Flagstaff, Arizona 86001

Arizona Master Energy Plan Stakeholder Meeting - Yuma
Wednesday, December 4, 2013
12:00-2:00pm

Meeting Location
Yuma City Hall
One City Plaza
Room #190
Yuma, Arizona 85364

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The Arizona Republic now has limited access. As such, links may or may not work.

ARIZONA-RELATED

Dept. of Energy Forced to Stop Collecting Money for Potential Waste Site

[East Valley Tribune, Nov. 19] PHOENIX — In a slap at the federal Department of Energy, a federal appeals court on Tuesday ordered it to stop collecting fees from nuclear plant operators — including $580 million so far from Arizona utility customers — to finance a waste site that may never be built. Judge Laurence Silberman, writing for the unanimous court, said the agency is using cost estimates for a long-proposed nuclear waste site at Yucca Mountain in Nevada — and very loose ones at that — to collect more than $750 million a year from utilities nationwide and their customers. But the judge said the agency has pretty much abandoned that site and is instead looking at some alternatives. Silberman said that not only violates federal law which specifies Yucca Mountain but also makes the fees, based on that site, totally arbitrary. So the court ordered the agency to ask Congress to reduce the fee to zero until the energy secretary either complies with the law or Congress comes up with an alternate plan for storing wastes somewhere other than Yucca Mountain.

First Arizona-Sonora Business Guide Well-Received

[Arizona Daily Star, Nov. 19] Manufacturers looking to reduce transportation costs by utilizing a shorter supply chain are signing up for the inaugural Arizona-Sonora Business Resource Guide. Since its launch earlier this month, dozens of manufacturers and suppliers have registered for the bilingual guide, which will be available in the spring in print and electronic formats. Manufacturers, suppliers, logistics companies, trade groups, economic development organizations and others with the ability and desire to do business in Arizona and Sonora are eligible to be included in the guide, which is being created by the Arizona Daily Star and the Tucson Hispanic Chamber of Commerce. Listings are free.

Legislative Panel Votes to Continue ADEQ for 5 Years

[Arizona Republic, Nov. 19] The Arizona Department of Environmental Quality should continue for another five years, a legislative panel recommended Tuesday. The continuation is part of the review lawmakers undertake when an agency is scheduled to "sunset," or close shop, unless the Legislature gives it a favorable rating. That favorable rating came on a 4-2 vote, although the two "no" votes actually urged a longer lifeline for the agency, which oversees air quality and water quality, as well as waste programs.

Rooftop Solar Battlefield Bound to Get Hotter

Net Metering and Who Pays What at Issue

[EnergyBiz.com website, Nov. 22] The rooftop solar battleground is bound to get hotter. The latest such clash occurred in Arizona, which ultimately settled on a modest price increase for businesses and homes that generate most of their own juice. The issue nationally, called net metering, is far from being resolved. About 40 states have rules to calculate who gets paid for what when consumers use distributed power, or rooftop solar panels -- something that pits them against the incumbent utilities. The general question is exactly how much those solar customers should have to pay their utilities if they are, generally, detached from it. Utilities must still maintain the grids, which are used to send electrons when the sun is not shining and when customers have excess energy to sell to utilities. In mid-November, Arizona' Corporation Commission decided it would levy a small charge on rooftop solar customers, or those who use such distributed power. The Arizona Public Public Service, a key utility there, had requested a charge that would

equate to roughly $50 a month, although it turned out to be roughly $5 dollars a month, according to New York Times story. It's a touchy issue. Utilities are spending billions upgrading their grids. If fewer people use them, the cost is then shifted to a smaller customer base. The irony, in some circles, is that wind and solar power that is generated in remote locations must have a transmission network with which to connect.

Solar Energy Farm Gets County OK

[Green Valley News, Nov. 19] A proposed solar energy farm north of Sahuarita won zoning approval Tuesday from the County Board of Supervisors. By next year it could become the area's largest solar farm, generating 35 megawatts of power for Tucson Electric Power. The board voted 5-0 to approve a conditional use permit for the photovoltaic power plant on 491 acres of Asarco property about a mile and half north of Pima Mine Road and west of Nogales Highway. The project will be owned by Avalon Solar Partners LLC, a subsidiary of Equator Solar of Albuquerque, itself an arm of Equator Capital Group of Washington, D.C., which has development projects worldwide. Avalon has a 20-year agreement to sell electricity to Tucson Electric Power. The Equator Solar web site says ground breaking is expected in the first quarter of 2014, and commercial operations could start in the fourth quarter. The project will create 300 construction jobs and four permanent maintenance and security jobs and should generate $4 million in county property taxes over 20 years and $325,000 in county sales tax during construction. Jack Neubeck of The Planning Center said the project property is fronted on three sides by 1,475 more acres of Asarco land and on the fourth by a 138-kilovolt power line on a 100-foot wide industrial easement, so it is far from any neighbors. County staff recommended the zoning.

Solar Energy Generation Exceeding Expectations

[HavasuNews.com, Nov. 22] Ten months into the city using solar energy to power four of its buildings, city leaders are saying the results so far have exceeded their expectations. Solar energy and energy efficiency steps taken in recent years have slashed the city's annual energy bill by nearly $419,000, according to a report presented to City Council members earlier this month....

Washington Gas Energy Systems to Build, Own and Operate Cogenra Solar Project for Tucson Electric Power in Tucson, Arizona

[Business Wire, Nov. 19] Tucson, AZ & McClean, VA – Washington Gas Energy Systems, Inc., today announced it has signed a contract with Tucson Electric Power (TEP) to build, own and operate a one-megawatt (MW) Cogenra Solar array that will provide renewable energy to the utility in Tucson, Arizona. The installation, awarded through a previous TEP RFP process, will consist of ground-mounted Cogenra T14 systems and will be constructed at Solar Zone within the University of Arizona's Science & Technology Park (UA Tech Park), also located in Tucson. The facility will be owned and operated by Washington Gas Energy Systems under a 20-year power purchase agreement with TEP. Cogenra Solar developed and designed the project and will manage procurement and construction. The project is expected to be completed in April 2014. Cogenra's T14 system combines high-efficiency silicon photovoltaic (PV) cells and a single-axis horizontal tracker with proven, proprietary low-concentration optics. Flat-glass mirrors concentrate the sunlight about 14 times, reducing the number of PV cells required to generate electricity. This lowers the levelized cost of electricity by up to 20 percent compared to conventional PV systems. This will be the largest Cogenra Solar project constructed to date.

ALTERNATIVE ENERGY AND EFFICIENCY

A Push to Get Lenders to Reward Energy Efficiency in Homes

Efforts are underway in the appraisal, lending, building and realty brokerage industries — even in Congress — to recognize and value home energy efficiency.

[Los Angeles Times, Nov. 24] WASHINGTON — For the growing numbers of home purchasers who care about energy efficiency, it's the ultimate "green" goal: Lenders

should recognize the net savings that energy improvements provide to property owners and take them into account when they underwrite and set the fees for mortgages. Appraisers should also recognize the added value. The rationale: Owners of homes that reduce energy consumption pay lower utility bills than owners of energy guzzlers, so why not factor these out-of-pocket savings into calculations of household debt-to-income ratios and appraised valuations? This might permit larger mortgage amounts for energy-efficient homes and help qualify more first-time buyers who are now frequently rejected on debt-ratio grounds. Though this is commonplace in other countries, it's a work in progress in the United States. Bipartisan legislation is pending in the Senate — the Sensible Accounting to Value Energy (SAVE) Act — that would require Fannie Mae, Freddie Mac, the Federal Housing Administration and other federal mortgage players to revise their rules to better recognize and reward energy savings.

First Solar Starts Work On Its Debut Utility-Scale Project in Japan

US PV manufacturer and developer First Solar has announced that it has started construction of its first PV plant in Japan, following up on the recent news that it had established a subsidiary for operating in the country. The 1.4MWDC plant will be made with First Solar CdTe thin-film PV modules and is being built in Kitakyushu-shi, on the southern Japanese island of Kyushu. The glass supplied to First Solar for manufacturing the company's CdTe thin-film modules comes from Nippon Sheet Glass, based in Tokyo. The power station is expected to go online in the first quarter of 2014. First Solar holds 100% of project equity. Although First Solar recently topped a ranking of EPC companies compiled by solar project tracking website Wiki-Solar, construction duties on the Kitakyushu-shi project will be handed to electrical manufacturing and project company Yaskawa Electric Corporation – headquartered in Kitakyushu – and Tokyo-based Obayashi Corporation, one of the five largest construction companies in Japan.

NREL Develops Building Energy Management Software

[Electric Light & Power, Nov. 20] A new software application created by the Department of Energy's National Renewable Energy Laboratory (NREL) could improve the efficiency of commercial buildings by allowing occupants to interact with buildings more directly. The Building Agent application allows facility managers to quickly diagnose and adjust for problems based on direct occupant comfort feedback. Occupants are able to share this feedback via the application dashboard on their desktop computers. With 25 percent of a building's energy performance directly related to occupant behavior, this capability can result in a step toward helping buildings become more cost effective and energy efficient. Additionally, the application provides aggregated data on electric energy, thermal energy, internal temperatures, humidity and lighting levels.

Undersea Transmission Cables Market Set to Grow

[Electric Light & Power, Nov. 25] The number of installed submarine transmission cables will grow from 110 in 2013 to 304 in 2023, according to a conservative forecast. Under a more aggressive scenario, that number could reach 453 by 2023, according to a new report from Navigant Research. Demand for high-voltage submarine electricity cables is growing steadily, as countries and regions make commitments to offshore renewable power generation, link remote landmasses and interconnect their national grids. As subsea cable technology advances, more projects are being proposed that require longer, deeper, and higher-capacity cables. While the economic downturn of the past few years has slowed the number of project installations, many governments and organizations remain committed to the types of projects that drive new high-voltage submarine cable installations, according to the report.

U.S. Firms Adds 600 MW of Solar, Biomass Power Plants in Oct- Govt

[Reuters, Nov. 21] Power generating companies installed over 500 megawatts of solar power and over 100 MW of wood waste and other biomass type fuels in the United States in October, according to a report by federal energy regulators. Since the beginning of 2013, the U.S. Federal Energy Regulatory Commission (FERC) said the generating companies have installed over 6,600 MW of natural gas capacity, 2,500 MW

of solar power, 1,500 MW of coal-fired generation, and 1,000 MW of wind power. The total generation installed between January-October was 12,300 MW, FERC said. One megawatt can power about 1,000 homes. The biggest power plant to enter service in October was Spanish multinational Abengoa SA's 280-MW Solana solar thermal plant in Arizona. Solana has a thermal storage system that enables the project to continue delivering power for up to six hours after the sun goes down. Arizona power company Arizona Public Service, a unit of Pinnacle West Capital Corp, buys the power form Solana under a long-term contract.

ENERGY/GENERAL

NERC: Integrating Variable Energy Will Require Shift on System Planning, Operations

[Power Magazine, Nov. 21] Integrating large quantities of variable energy resources into the North American bulk power system will require fundamental electricity system planning and operational changes to ensure continued reliability, the North American Electric Reliability Corporation (NERC) says in a new report that it prepared in collaboration with the California Independent System Operator Corporation (ISO). The assessment, "Maintaining Bulk-Power System Reliability While Integrating Variable Energy Resources – CAISO Approach," seeks to identify considerations that all system planners and operators must address to reliably integrate significant quantities of wind and solar photovoltaic resources into the bulk power system, and it showcases how CAISO is addressing these challenges as it prepares to connect more than 11 GW of variable resources to its grid over the next eight years. Variable energy resources have different characteristics and respond differently on the system compared to fossil-fueled, large-scale hydro, and nuclear resources that have traditionally provided electricity supply, the assessment notes. "Industry has established reliability expectations with these generating technologies through knowledge accumulated over many years of experience," it says. Less is known about how variable energy resources on a large scale will respond on the system, but it is certain that "As larger amounts of variable generation are added to the system, they will displace the traditional large, rotating machines and the operating characteristics those machines provided," NERC concludes.

Oil Prices Dip after Nuclear Deal with Iran

[New York Times, Nov. 25] LONDON — Oil prices dipped Monday on the heels of an interim agreement between Iran and the United States and other world powers to temporarily freeze Tehran's nuclear program. Stocks around the world, and the dollar, went higher. But few experts expect any significant change to consumer energy prices, at least in the short term. In terms of market fundamentals, little has changed, despite the United States' agreement to provide $6 billion to $7 billion in sanctions relief to Iran, much of it in the form of oil revenue that has been frozen in foreign banks.
Analysts say that Iran is unlikely to be able to increase its exports much, if at all, during the six-month period covered by the deal, because the Washington-led coalition has not lifted its embargo against Iranian oil. The main buyers will continue to be those that, given their heavy reliance on energy imports, have been given waivers by the United States: China, India, South Korea and Japan.

INDUSTRIES AND TECHNOLOGIES

Frost & Sullivan Highlights New Solar Inverter Technology

[Electric Light & Power, Nov. 21] Based on its recent research on the solar inverter market, Frost & Sullivan presents CyboEnergy with the 2013 Global Frost & Sullivan Award for Product Differentiation Excellence. CyboEnergy's innovative inverter, CyboInverter, combines the merits of a central inverter and a micro inverter and, thereby, successfully addresses the shortcomings of existing inverter types. Solar panels and inverters are the two most critical components in a solar power system as they work together to collect solar energy and convert it into usable electricity. In order to be successful in the competitive market, it is crucial for inverter manufacturers to differentiate themselves by providing innovative solutions, which enhance the

functionality and provide monetary benefits to the end users. The global solar inverter market in 2012 was worth $7.5 billion and is expected to grow at a compounded annual growth rate of 16 percent to reach $14.7 billion by the end of 2017. When compared with central inverters, the inputs to a CyboInverter are low-voltage DC and the output from the CyboInverter is the standard 240V AC. As there is no high-voltage or high-current DC in the system, it is much safer for the installer, user, and the property. This product also helps bring down the installation costs by eliminating the need for detailed solar panel alignment design and DC wiring to the DC junction box. In addition, the CyboInverter performs maximum power point tracking (MPPT) on a panel level, enabling an increase in energy harvest and, ultimately, lower energy costs.

Shale Boom in the U.S. Is Bridge to Future Cleaner-Burning Fuels

[Bloomberg, Nov. 20] A shale boom in the U.S. that's led to lower natural gas prices and higher energy efficiency will act as a bridge to cleaner burning fuels, Carol Browner, a former Environmental Protection Agency head, said today. "Right now there are a lot of reasons" to favor using natural gas, said Browner, a senior counselor at Albright Stonebridge Group, a Washington-based global strategy organization. She spoke at "The Year Ahead: 2014," a two-day conference sponsored by Bloomberg LP in Chicago. The U.S. is forecast to pump 70.29 billion cubic feet a day of natural gas this year, up from the 2012 record of 69.18 billion as hydraulic fracturing, or fracking, has unlocked shale deposits that previously were uneconomical to produce, according to data from the Energy Information Administration, the statistical arm of the U.S. Energy Department. Natural gas for December delivery rose 3.3 percent today to $3.674 per million British thermal units on the New York Mercantile Exchange. That's down from a record $15.78 in 2005. Gas accounted for 30 percent of electricity generation last year, up from 19 percent in 2005, EIA data show.

US Solar Photovoltaic Pipeline Grows to 43 Gigawatts: Enough to Power More Than Six Million Households, According to NPD Solarbuzz

The US will be the third-largest solar PV market in 2014, after China and Japan.

[Solarbuzz.com, Nov. 25] Santa Clara, CA – The pipeline of solar photovoltaic (PV) projects awaiting completion within the United States has grown by 7% during the past 12 months, and now exceeds 43 gigawatts (GW), which is enough to power more than six million US households. Whereas large projects in excess of 100 megawatts (MW) previously dominated the US PV pipeline, growth is now being driven by smaller projects up to 30 MW in size, according to the latest NPD Solarbuzz *United States Deal Tracker* report. The growing project pipeline remains a key factor in driving the positive outlook for the US PV industry, which is now forecast by to become the third-largest solar PV market globally in 2014, after China and Japan.

LEGISLATION AND REGULATION

DOE to Fund Potential Power Plant Overhaul

[Energy Manager Today, Nov. 20] In the wake of strict government-imposed environmental regulations on power plants in the United States, the US Department of Energy may have just offered up a solution to keep the country in the energy business. On Nov. 7, the DOE announced its plans to invest $84 million in clean carbon technologies to create cost-effective, minimal emission innovations for the nation's coal-fired power plants. The DOE funds will be divided among 18 different projects focusing on carbon-capture technologies for both pre- and post-combustion power plants. Carbon capture storage (CCS) is a solution for power plants to minimize carbon emissions due to the burning of coal or oil. The technology allows a plant to capture its emissions and store them in large containers, usually underground. This prevents carbon from seeping into the atmosphere and contributing to climate change.

FERC Approves Electric Utility, Gas Pipeline Information Sharing

[Fierce Energy, Nov. 20] Interstate natural gas pipelines and electric transmission operators can now voluntarily share non-public operational information to promote the

reliability and integrity of their systems thanks to a final rule passed down by the Federal Energy Regulatory Commission (FERC).With increasing reliance on natural gas as a fuel for electric generation, ensuring robust communications between transmission operators in the electric and natural gas industries will help both systems operate reliably and effectively. To protect against undue discrimination and ensure that the shared information remains confidential, the rule also adopts a No-Conduit Rule that prohibits recipients of the information from disclosing it to an affiliate or a third party.

House Oks Bills to Speed Oil, Gas Drilling

[Associated Press, Nov. 20] WASHINGTON — The House approved two bills Wednesday aimed at speeding up drilling for oil and natural gas on public lands. The measures were among three energy bills the House is considering this week as Republicans who control the chamber push to expand an oil and gas boom that's lowered prices and led the U.S. to produce more oil last month than it imported from abroad. One of the bills approved Wednesday would set strict deadlines for federal approval of oil and gas permits and expand areas open to production. Another would restrict the Interior Department from enforcing proposed rules to regulate hydraulic fracturing, or fracking, on public lands. A third bill, set for approval Thursday, would streamline permitting for natural gas pipelines. Supporters say the bills are needed to ensure that a drilling boom taking place on state and private lands extends to millions of acres, mostly in the West, under federal control. President Barack Obama has promised to veto the bills, saying they are unnecessary and run counter to protections put in place for oil and gas drilling. Rep. Doug Lamborn, R-Colo., who sponsored the bill to speed up permitting, said the current energy boom has mainly occurred on state and private lands, including the Bakken formation in North Dakota and Montana and the Marcellus Shale region centered in Pennsylvania, Ohio and West Virginia. Drilling also is booming in traditional production states such as Texas, Oklahoma and Louisiana.

Is Changing Renewable Fuel Standard A 'War on Corn?'

[Sioux City Journal, Nov. 24] Nevada IA – Inside a cavernous metal-sided warehouse in rural Nevada, a who's who of Iowa's political and biofuel worlds met for what they said was nothing less than an outright attack on rural America. That attack, said Gov. Terry Branstad, is coming from the Environmental Protection Agency in the form of new rules scaling back the national transportation fuel supply use requirement by a few billion gallons. "There's an army of farmers out here. Right now, you don't have your pitchforks, but you're ready to fight," said U.S. Sen. Chuck Grassley, R-Iowa, the state's senior senator who still farms in New Hartford and who joined Branstad and others in the unheated warehouse. He stood, microphone in hand, at a podium set up in front of a 15-foot-high golden pile of grain being dropped into the warehouse for storage from an overhead conveyor. "We're not just fighting big oil, we're fighting ignorance," he said. "We're fighting ignorance of ethanol." The worry is over the Renewable Fuel Standard. That's a requirement that a certain amount of biofuels must be used in the United States each year. The first standard came about in the Energy Policy Act of 2005, requiring a minimum of 4 billion gallons be used in 2006, rising to 7.5 billion by 2012. Those amounts, however, were greatly expanded in the 2007 Energy Independence and Security Act. The new measure required 9 billion gallons of biofuels by 2008 rising to 36 billion gallons by 2022. It also required 16 billion of those gallons to be from cellulosic biofuels and a cap of 15 billion gallons from corn-starch ethanol. The proposed EPA rules dial back the current requirements by at least 3 billion gallons of biofuels. "This is a war on corn," Branstad said.

NARUC Urges Flexibility As EPA Writes Power Plant Emissions Rules

[Electric Light & Power, Nov. 20] The National Association of Regulatory Utility Commissioners (NARUC) is asking the Environmental Protection Agency to be flexible and seek input across all levels of state government as it develops emissions reduction rules for existing power plants. In a resolution adopted today at its 125th Annual Meeting in Orlando, NARUC took no position on whether EPA should proceed but encouraged the agency to rely on state utility and environmental regulators as it pursues its rules.

The resolution also asks the agency to find ways to accommodate existing state actions and recognize that states may need flexible approaches. The resolution “urges the EPA, in developing any emissions guidelines for regulating carbon emissions from existing power plants, to recognize the primacy of states to rely on both state utility and environmental regulators to lead the creation of emission performance systems that reflect the policies, energy needs, resource mix, economic conditions of each state and region,” it states.

U.S. Air Pollution Authority Faces Supreme Court Tests

The U.S. government's authority to regulate air pollution nationwide, often against the wishes of Republican-leaning states, could face new curbs when the Supreme Court takes on two high-stakes cases in coming months.

[Reuters, Nov. 25] WASHINGTON – The U.S. government's authority to regulate air pollution nationwide, often against the wishes of Republican-leaning states, could face new curbs when the Supreme Court takes on two high-stakes cases in coming months. The cases focus on the broad-ranging power wielded by the Environmental Protection Agency (EPA) under the landmark Clean Air Act, first enacted in 1970. The law was envisioned as a cooperative effort between the federal government and states in which the EPA sets standards but states have to set plans to comply. That flexibility has allowed states which favor looser regulations, like Texas and Kansas, to resist - with the support of industry groups like the U.S. Chamber of Commerce and the National Association of Manufacturers - when the agency wants to impose more stringent standards.

Wind Energy Company Pleads Guilty To Eagle Deaths

[Arizona Daily Star, Nov. 22] The government for the first time has enforced environmental laws protecting birds against wind energy facilities, winning a $1 million settlement Friday from a power company that pleaded guilty to killing 14 eagles and 149 other birds at two Wyoming wind farms. The Obama administration has championed pollution-free wind power and used the same law against oil companies and power companies for drowning and electrocuting birds. The case against Duke Energy Corp. and its renewable energy arm was the first prosecuted under the Migratory Bird Treaty Act against a wind energy company.

WESTERN POWER

MIT Laboratory Will Review SunZia Line Plan

[Albuquerque Journal, Nov. 16] NEW MEXICO – The U.S. Department of Defense has agreed to commission a study by the Massachusetts Institute of Technology's Lincoln Laboratory on the potential impacts of the Sun-Zia transmission line on White Sands Missile Range. As a result, the U.S. Bureau of Land management says it will postpone a pending decision on whether to approve an environmental impact statement that currently calls for routing a 45-mile stretch of the 500-mile, high-voltage line through White Sands' northern extension area. The DOD has said the proposed line could interfere with military operations in the extension area, a "call-up zone" just north of White Sands where ranchers and others are often evacuated for testing exercises. But private developers behind SunZia, as well as BLM officials in New Mexico, said the proposed route already had been moved several times to accommodate Army concerns. And, until now, the BLM had said it planned to issue a record of decision on the environmental impact statement without delay this fall. To resolve the conflict, U.S. Sen. Martin Heinrich, D N.M., sent a letter to Undersecretary of Defense Frank Kendall in September, requesting that the DOD commission MIT's Lincoln Lab to assess the project's impacts and potential mitigation measures.

New Mexico Cuts Demand for Solar Power

[PVTech.org, Nov. 25] Changes to the way New Mexico incentivises different renewable technologies have effectively halved the support for utility-scale solar power. The state’s Public Utilities Commission voted 3-2 to assign two Renewable Energy Credits for each

kilowatt of power generated from solar. This means half as much electricity from solar will now be required for the state to meet its obligations under the Renewable Portfolio Standard (RPS). Geothermal credits have been trebled in value. Wind has remained on one certificate per kilowatt hour making it the main beneficiary of the new rules. The changes do not affect New Mexico's overall renewable energy target that requires 15% of the electricity utilities sell to be from clean energy sources by 2015 and 20% by 2020. This target is broken down by technology with not less than 30% to come from wind, 20% from solar, 5% from other centralised renewable sources and not less than 1.5% from distributed energy. The changes will allow solar's allocation to be met twice as quickly.

San Diego Pilots First Street Light Energy Grid

[FierceSmartGrid.com, Nov. 20]One of the biggest energy cost centers in any given city is often the street light network. But imagine a city where the street lights are not only cost- and energy-efficient, but serve as a mini-energy grid and one of the key building blocks for a smart city. In a first-of-its-kind project, that's exactly what a working group in San Diego County is attempting. A collaboration between the local utility, San Diego Gas & Electric (SDG&E), industry group CleanTECH San Diego, and many of San Diego County's 18 cities and public agencies is testing a pilot to create a smart street light grid that will provide valuable community services and generate revenue for the city. San Diego's street light working group is conducting an adaptive controls pilot project in the city of San Diego. San Diego has a large downtown area with several thousand antique-style post-top street lights. With advances in LED lighting and controls, there are exciting new technology offerings that the working group is looking to evaluate. Other cities have installed LED streetlights with adaptive controls to achieve remote monitoring and maintenance efficiency benefits, but the San Diego region is the first to attempt to create a smart energy grid that actually monetizes the streetlight network.

Strong Rules on Fracking in Wyoming Seen as Model

[New York Times, Nov. 22] In energy-friendly Wyoming, oil and gas companies are getting a clear message: Drill, baby, drill — but carefully. Last week, state regulators approved one of the nation's strongest requirements for testing water wells near drilling sites. The measure is intended to address concerns that groundwater can become contaminated from drilling activities. It is the latest of several groundbreaking regulations related to energy production issued by Wyoming, which in 2010 became the first state to require disclosure of some of the chemicals used in the drilling process known as hydraulic fracturing, or fracking. "I am not going to accept the question of do you want a clean environment or do you want energy," said Gov. Matthew H. Mead, a Republican who championed the water-testing regulation. "The fact is that in Wyoming, we want and need both." Wyoming ranks about fourth among states in natural gas production and eighth in oil production, which has grown rapidly in recent years. The new water rule, which takes effect in March, will require oil and gas companies to test wells or springs within a half-mile of their drilling site, both before and after drilling. The tests will measure a range of factors, including temperature, bacteria, dissolved gases like methane and propane, and roughly 20 chemical compounds and elements including barium, benzene, strontium and nitrates.

ARIZONA STATE INCENTIVES/POLICIES

ARIZONA COMMERCE AUTHORITY (ACA)

- Angel Investment Tax Credit Program - The main objective of the Angel Investment program is to expand early stage investments in targeted Arizona small businesses. The program accomplishes this goal by providing tax credits to investors who make capital investment in small businesses certified by the Arizona Commerce Authority (ACA). To view the list of businesses that have been certified under this program please click here. LEARN MORE

- Arizona Innovation Accelerator Fund - The Arizona Innovation Accelerator Fund Program is an $18.2 million loan participation program funded through the U.S.

Department of Treasury's SSBCI and managed by the Arizona Commerce Authority. The goal of this program is to stimulate financing to small businesses and manufacturers, in collaboration with private finance partners, to foster business expansion and job creation in Arizona. LEARN MORE

- Arizona Innovation Challenge - The Arizona Innovation Challenge is an investment in the minds of talented entrepreneurs in Arizona and around the world. The ACA will award $1.5 million to the most promising technology ventures that participate in the Challenge (awards may range from $100,000 to $250,000). LEARN MORE

- AZ Fast Grant - Enables Arizona-based technology companies to initiate the commercialization process. Total funds available for this grant round are $175,000. Maximum awards of $5,000 and $20,000 will enable companies to accomplish one of four scopes of work. LEARN MORE

- AZ Step Grant - Grant funding from the U.S. Small Business Administration (SBA) with matching funds contributed by the Arizona Commerce Authority (ACA) offering a number of services and tools to Arizona small businesses as they go global for the first time with sales or enter new, international markets. LEARN MORE

- Commercial/Industrial Solar Energy Tax Credit Program - The primary goal of the Commercial/Industrial Solar Energy Tax Credit Program is to stimulate the production and use of solar energy in commercial and industrial applications by subsidizing the initial cost of solar energy devices. The program achieves this goal by providing an Arizona income tax credit for the installation of solar energy devices in Arizona business facilities. LEARN MORE

- Healthy Forest - The primary goal of the Healthy Forest Enterprise Incentives Program is to promote forest health in Arizona. The program achieves this by proving incentives for certified businesses that are primarily engaged in harvesting, processing or transporting of qualifying forest products. LEARN MORE

- Job Training Program offers job-specific reimbursable grants for employers creating new jobs or increasing the skill and wage level of their current employees. Deadline: Year Round. LEARN MORE

- Renewable Energy Tax Incentive Program offers a refundable income tax credit and property tax reduction to companies in solar, wind, geothermal and other renewable energy industries who are expanding or locating a manufacturing or headquarters operation in Arizona. The tax credit is up to 10% of the total qualified investment amount and the property tax benefit can reduce a company's property taxes by up to 75%. Deadline: Year Round. LEARN MORE

- Research and Development Tax Credit is an Arizona income tax credit for increased research and development activities conducted in this state. Starting in 2010, a qualifying company may be eligible to claim a partial refund of its current year excess R&D credit. Applicants may apply at the end of their tax year but prior to filing a tax return with Revenue. LEARN MORE

Quality Jobs Tax Credit Program - The primary goal of the Quality Jobs Tax Credit program is to encourage business investment and the creation of high-quality employment opportunities in the state. The program accomplishes this goal by providing tax credits to employers creating a minimum number of net new quality jobs and making a minimum capital investment in Arizona. LEARN MORE

- **Bonds Administered by the Arizona Commerce Authority**
  - Private Activity Bonds (PAB) - Tax exempt bond financing, for federal

purposes, offers an alternative financing mechanism for certain projects. LEARN MORE

- Qualified Energy Conservation Bonds (QECB) - Tax credit bonds are available as an alternative financing mechanism for certain green projects. LEARN MORE

Federal Programs

- Small Business Innovation Research (SBIR) Program - SBIR is a competitive program that encourages small businesses to explore their technological potential, as well as, providing incentive to profit from its commercialization. LEARN MORE
- Small Business Technology Transfer (STTR) Program - STTR is an important small business program that expands funding opportunities to meet the nation's scientific and technological challenges in the 21st century. LEARN MORE
- Work Opportunity - The Work Opportunity Tax Credit (WOTC) is a federal tax credit of up to $9,000 that Congress provides to private-sector businesses for hiring individuals from nine target groups who have consistently faced significant barriers to employment. LEARN MORE

Pollution Control Tax Credit - Provides a 10 percent income tax credit on the purchase price of real or personal property used to control or prevent pollution.

Renewable Energy Production Tax Credit - An income tax credit awarded to utility-scale generation systems based on the amount of electricity produced annually for a 10-year period using solar or wind energy. Questions can be directed to Georganna Meyer (602-716-6927) or Elaine Smith (602-716-6924).

Sales Tax Exemption for Machinery and Equipment
Exemptions are available for:

1. Machinery or equipment used directly in manufacturing, see ARS 42-5159(B)(1).
2. Machinery, equipment or transmission lines used directly in producing or transmitting electrical power, but not including distribution, see ARS 42-5159(B)(4).
3. Machinery or equipment used in research and development, see ARS 42-5159(B) (14).

Questions can be directed to Christie Comanita (602-716-6791).

Solar Liquid Fuel Tax Credit - Income tax credits are available for research and development, production and delivery system costs associated with solar liquid fuel. Questions can be directed to Georganna Meyer (602-716-6927) or Elaine Smith (602-716-6924).

Database of State Incentives for Renewables and Efficiency (DSIRE)

- Arizona Incentives/Policies
- Federal Incentives/Policies
- Solar Policy News - DSIRE provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

GRANTS

The following solicitations are now available:
(Click on title to view solicitation)

- U.S. Dept. of Agriculture - Rural Development Grant Assistance
- SBIR/STTR FY 2014 Phase II Release 1, Reference Number: DE-FOA-0001019 – Response Due Date: December 10, 2013 11:59:00 AM ES
- U.S. Dept. of Energy Solar Decathlon 2015, Funding Number: DE-FOA-0000959, Response Due Date, December 20, 2013
- Solid Waste Management Grant - Response due December 31, 2013
- Energy Frontier Research Centers – Response due by January 9, 2014
- Research and Development for Hydrogen Storage – Response due January 17, 2014
- Hydrogen Delivery Technologies – Response due by February 14, 2014
- Assisting Federal Facilities with Energy Conservation Technologies (AFFECT) – Response due by February 18, 2014
- Environmental Sustainability - Response due February 20, 2014
- Energy for Sustainability - Response due February 20, 2014
- Environmental Health and Safety of Nanotechnology - Response due February 20, 2014
- Particulate and Multiphase Processes- Response due February 20, 2014
- Thermal Transport Processes - Response due February 20, 2014
- Plant Feedstock Genomics for Bioenergy: A Joint - Response Due Date: February 25, 2014
- SunShot "Race to the Roof" Initiative - Registration due October 31,2014
- Repowering Assistance Program – Ongoing
- Rural Business Enterprise Grants– Ongoing
- Rural Business Opportunity Grants– Ongoing
- Sustainable Agriculture Research and Education Grants – Ongoing
- Renewable Energy RFPs - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power – Various Deadlines

ENERGY-RELATED EVENTS

2013

- GoGreen Phoenix 2013
  December 3 Phoenix, AZ
- Ecobuild America 2013
  December 9-13 Washington, D.C.
- ASU Sustainability Series Events

- Green Building Lecture Series
  Granite Reef Senior Center Scottsdale, AZ

2014

- Energy, Utility & Environment Conference
  February 3-5, 2014 Phoenix, AZ
- 2014 Energy Outlook Conference
  February 4-7, 2014 Washington, DC
- Sustainability Solutions Festival
  February 17-22, 2014 Phoenix, AZ
- Arizona Solar Summit IV
  February 20, 2014 Phoenix, AZ
- Green Biz Forum 2014
  February 18-20, 2014 Phoenix, AZ
- International Geothermal Energy Forum
  April 23-24, 2014 Washington, DC
- National Geothermal Summit
  August 5-6, 2014 Reno, NV
- Geothermal Energy Expo
  September 28-October 1, 2014 Portland, OR
- ASU Sustainability Series Events
- Green Building Lecture Series
  Granite Reef Senior Center Scottsdale, AZ